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ABSTRACT

This paper addresses issues related to the development of geographic literacy by describing, explaining, and discussing these issues as they relate to the current reform movement in the teaching of geography. Emphasis is placed on how this information relates to students with learning disabilities. The paper emphasizes the importance of effective teaching of geographic literacy in students with learning disabilities. There is a lack of activities related to geography in the special education curriculum and the student's Individualized Education Plan (I.E.P.) does not generally include geography goals. The paper questions the artificial activities that are in place in the special education curriculum. This review of the literature is intended as a search for ideas, strategies, and ways to effectively reach the population of students with learning disabilities. (Contains 37 references.) (EH)

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Development of Geographic Literacy in Students with Learning Disabilities

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Introduction

This paper will address issues related to the development of geographic literacy. The intent is to describe, explain, and discuss these issues as they relate to the current reform movement in the teaching of geography. In addition to a general review and discussion of research and professional literature, emphasis will be placed on how this information relates to students with learning disabilities.

This topic was chosen due to the importance that geographic knowledge and skills have in preparing students to become informed citizens. Geographic literacy involves the development of concepts which should not be overlooked in an elementary student's education; this being stressed in *Goals 2000. Goals 2000,* as well as *A Nation at Risk,* has placed the social studies' disciplines, of which geography is one, as a subject of major national interest and debate (Alkin, 1992). It is due to the timely relevance of this topic that it was selected by the author for investigation.

The reports showing geographic illiteracy in our nation's students stress the need for the effective teaching of geography. The development of geographic literacy goes beyond simple map and globe skills. It is currently viewed that geography involves taking the basic facts of this discipline and expanding them into critical thinking abilities (Binko & Neubert, 1996; Lockledge, 1991; and Thornton, 1990). Students of geography should be able to discuss where a place or group of people is located and find reasons for that location by examining the relationships and effects among the physical and human characteristics of that place.

Through documents such as *Guidelines for Geographic Education* (1984) and *Geography for Life: National Geography Standards* (1994), teachers have been provided with five fundamental themes and eighteen standards. These themes and standards should direct the teaching of geography in a manner which leads towards geographic literacy. By studying geography in this manner, students will understand the interdependency of people and their environments.

Geography is related to all of the disciplines in the social studies. Its importance is stressed throughout the California framework for history and social

studies. In fact, geographic literacy brings greater understanding to all educational subjects. Every situation occurs in a place and involves characteristics and resulting effects of those characteristics. Due to this relevancy, geographic literacy could be the focus of every topic in elementary education which could possibly eliminate the geographic illiteracy our nation has experienced.

Throughout this paper the importance of geographic literacy in special day, learning handicapped classrooms will become apparent. One goal of geography is to produce informed citizens capable of living in a global society. To prevent one group of students from attaining this goal, such as students with learning disabilities, is considered exclusion and should not occur (Curtis, 1991). Students with learning disabilities have the right to be a part of the suggested curricular practice of placing geography among one of our core subjects at the elementary level once again. Despite the fact that geography goals are generally not included in a students Individualized Education Plan (I.E.P.), the teachers of students with learning disabilities should strive to find ways to include the study of geography in the special education curriculum. The trick, as will be stressed throughout this paper, will be in finding effective ways to develop geographic literacy in this population.

The author realizes the importance of effective teaching of geographic literacy in students with learning disabilities; sees the lack of activities related to geography in the special education curriculum; questions the artificial activities which are in place; and intends to use this literature review as a search for ideas, strategies and ways to effectively reach the population of students with learning disabilities.

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Statement of the Problem

This paper will attempt to complete a broad review of available literature concerning the development of geographic literacy. A review of the history of this topic as well as a discussion of current practices and recommendations is intended. Emphasis will then focus on the methods and strategies which research and professional literature have mentioned as being effective. Where appropriate, the findings will be related to students with learning disabilities.

The following questions will be discussed:

(1) What has research shown in terms of effective and noneffective methods for teaching geographic literacy?

(2) What strategies are suggested in professional literature to develop geographic literacy in elementary students?

(3) What does the teaching of geography entail in the 1990's?

(4) How can teachers of students with learning disabilities effectively develop geographic literacy in their students?

Definitions

Various definitions will be used throughout this paper which need to be discussed. Terms related to geography and learning disabilities will be explained separately.

Beginning with terms related to geography, the following definitions were found within the literature reviewed. **Social studies** has been mentioned as hard to define due to the fact that it is comprised of so many disciplines. The best definition found, however, is as follows: "the integrated study of the social sciences and humanities to promote civic competence. The primary purpose ... is to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of a culturally diverse, democratic society in an interdependent world" (Task Force for the National Council for the Social Studies, 1994). The author found this to be the best definition due to the concise manner in which it was stated. This particular definition described the goal important to all of the social studies which has been commonly agreed upon among the literature.

One of the disciplines in the study of the social studies is **geography**. As will be discussed in the history section of this paper, geography in the past involved memorizing place names and land forms and plotting their locations on various maps. Within the last two decades, the definition of geography has broadened. Geography is still focused on the locations of elements on earth, however, a bigger emphasis is now placed on those elements' relationship to each other (Stoltman, 1991). This expanded view of geography is illustrated in the following description from *Geography for Life:*

> Geography is the science of space and place on the earth's surface. Its subject matter is the physical and human phenomena that make up the world's environments and places. Geographers describe the changing patterns of places in words, maps, and geo-graphics, explain how these changes came to be, and unravel their meaning. Geography's continuing quest is to understand the physical and cultural features of places and their natural settings on the surface of the Earth (Geography Education Standards Project, 1994).

Geographic literacy is a recent term which refers to the expanded view of geography mentioned above. Geographic literacy is, in the author's understanding, the ability to take the basic skills of geography and use them to develop an understanding of the world in which we live. Geographic literacy involves attempting to understand concepts through five fundamental themes: location, place, relationships, movement and regions. **Location** refers to an element's absolute and relative position on the earth's surface. **Place** refers to a location's physical and human characteristics. **Relationships** looks at the interactions between a location and the living things residing there. It specifically focuses on man's impact on the environment. **Movement** refers to human's interactions on the earth; including transportation, the exchange of goods and services, and communication. **Regions** are the basic units of geographic study. A region is an area that shows unity when looked at in terms of specific criteria.

These definitions have been refined to the point where consistent explanations can be found in recent literature. As we prepare to watch the 1990's conclude, a clear understanding of geographic literacy is becoming agreed upon. The differences in definitions result from either a lack of knowledge regarding the changing viewpoints in geography or an inability to change one's opinions formulated sometime in the past. The differences in the definitions appeared to be held by the general public, including many teachers, and not by the authors of the professional literature. The authors of the literature generally agreed that the teaching of geography is moving away from naming and locating and moving towards understanding and analyzing.

Also important for this paper, is the understanding of the definition of a **learning disability**. Unfortunately, specific, agreed upon definitions are rare. Most of the problem in formulating a definition is due to the vast differences found in students with learning disabilities. Students with learning disabilities can encounter difficulties with memory, attention, visual processing, and/or auditory processing, just to name a few. Some learning disabilities manifest themselves in reading areas only, some in math areas only, some in both reading and math areas, and some in other areas including social skills and organizational skills. As a result of these vast differences, a clear definition which applies to all of these students has been hard to find. It is generally agreed upon, however, that a

learning disability is an inability or difficulty with the processing of information. The current federal definition of learning disabilities states that:

> "Specific learning disability" means a disorder in one or more of the basic psychological processes involved in understanding or using language, spoken or written, which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage. (Federal Register, Dec. 29, 1977, p. 65083 as published in Smith, 1994).

History of Teaching Geography

Geography as a subject of inquiry has been expressed in communication since the Greek empire. Over the years its status in education has changed. Geography emerged as a curriculum field in American schools in 1916, has been neglected since then and became of national concern in the 1980's. The 1990's have proven to be a time of radical changes in the importance of geographic literacy. "Modern geography," a reform movement of the past couple of decades, is focused on expanding geography from the teaching of facts and skills to the analysis of where things are located and why (Thornton & Wenger, 1990).

Research in the field of geography dates back to the 1930's. Research interests from that time until the 1950's focused on the integration of geography into the social studies and map skill designs. In the majority of research, studies reviewed the effectiveness of teaching map skills and the ability of students of various ages to read maps (Stoltman, 1991).

The 1960's provided an active time of geography research which has not been repeated. The major research activity in the early 60's brought forth a new social studies movement (Harper, 1990). The four major traditions of geography were published in 1964. These traditions were compiled after surveying the nation's teachers as to what they were including in their geography curriculum. The traditions organized what was being practiced in education at the time and were: geography as earth science, man-land geography, spatial geography, and area studies or regional geography.

Research in the late 60's discussed abilities to read maps based on age, effective models for teaching geography, and the views of social studies teachers versus professional geography teachers. Even in the late 60's teachers of social studies held a narrow view of geography, while professional geography teachers were already viewing geography in terms of spatial concepts AND in terms of interactions among elements (Stoltman, 1991).

The back to basics movement in education, which occurred in the 1970's, reduced the amount of time devoted in the curriculum to the social studies and

resulted in less emphasis on geography research. The research of the 1970's which did occur began looking at Piaget's theory of spatial and cognitive development as it relates to the development of map skills. The focus of research was still on reading maps, but also included studies on the methods of teaching geography. Also included was a study looking at the geography education of African American students.

The 1980's brought about changes in the views of what it meant to be geographically literate. Results of certain studies of American students lead to major emphasis on change. The 1980's became an important time for all of the social studies, including the study of geography (Alkin, 1992).

The research of the early 1980's still focused on the effective teaching of map skills and cognitive development. One new topic in the research was the use of computers in the teaching of map skills.

It was in 1983 that major changes in how America viewed the subject of geography would begin. Studies at this time revealed that simple exposure to maps did not ensure geographic knowledge (Boehm & Petersen, 1987). *A Nation at Risk,* published in 1983, set the stage for important curricular concern and reform by showing the prevailing geographic illiteracy in American students. It placed blame on the decades in education where geography was eliminated or merged with other disciplines (Binko & Newbert, 1996).

In 1984, the Joint Committee on Geographic Education published *Guidelines for Geography Education: Elementary and Secondary Schools* which was the the "single most important document associated with the current renaissance in geography education" (Binko & Neubert, 1996). It emphasized that memorization should not be the focus of geography; but rather, critical thinking and problem solving should be the focus. It was in this document that the five fundamental themes of geography were introduced and discussed. The themes of: location, place, relationships, movement, and regions were introduced as a framework for organizing and teaching geography subject matter and skills.

In 1987 *K-6 Geography: Themes, Key Ideas and Learning Opportunities* was published with the intent of translating the five fundamental themes of geography into a program. This document fit the five themes into the elementary

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curriculum, or rather, it organized the elementary curriculum according to the five themes and clearly showed the emphasis for each grade level.

The *History-Social Science Framework for California Public Schools Kindergarten through Grade Twelve* was published in 1988 and listed geographic literacy under the social science goal of knowledge and cultural understanding. It organized the five fundamental themes of geography and integrated them with the humanities and other social sciences. The framework was also significant in departing from the expanding environments model of geography curriculum which will be discussed in the Major Issues section.

By the late 1980's, as a result of major policy recommendations and curriculum proposals, the new geography was established in literature based on the five themes (Harper, 1990). Unfortunately, the new geography was yet to be firmly embraced by the practices in elementary schools.

In the 1990's *Goals 2000* was published. Geography was singled out in this document as being of great importance in educational reform. It strongly suggested including geography as a separate core subject in the elementary curriculum and recommended testing of geographic knowledge in the fourth, eight, and twelfth grades (Chapin & Messick, 1996).

The last important document published thus far occurred due to the efforts of the Geography Education Standards Project in 1994. *Geography for Life: National Geography Standards* was published in response to *Goals 2000*. It attempted to define what every American student should learn in order to bring all students up to international standards in geographic literacy. As a result of its purpose, eighteen national geography standards were created and discussed. The eighteen standards are grouped into the following six elements: the world in spatial terms, places and regions, human systems, environment and society, physical systems, and the uses of geography.

Geography is clearly on a road to increased emphasis in the elementary school curriculum. Many documents have been published in the last two decades striving to bring that emphasis into the classrooms. With the recommendations of *Goals 2000*, it will be interesting to see the road geography takes in the years to come.

History of Learning Disabilities

It is not in the scope of this paper to provide an indepth look at the history of learning disabilities, however, the author feels the inclusion of a few key points will be beneficial.

In our nation's history, students with disabilities were not guaranteed an education. Often times, these students were found in residential settings or asked to remain at home. Learning disabilities were not brought to the public's attention until the late 1960's. Prior to that these students were often left to struggle in general education courses with little or no assistance. (Smith, 1994).

With the passage of Public Law 94-142: Education for All Handicapped Children Act in 1975 (renamed PL 101-476: Individuals with Disabilities Education Act--I.D.E.A--in 1990), a free and appropriate education was guaranteed for ALL students. Appropriate refers to the least restrictive environment that can benefit the individual. This can range from residential placement for persons with severe disabilities to general education placement, with services such as speech therapy, for persons with minor disabilities. The services are determined and delivered based on the decision of an Individual Education Plan (I.E.P.) team.

The most recent issues in the field of special education and learning disabilities are those of mainstreaming and inclusion, both of which are relevant to the teaching of geography. Many students placed in a special day class for learning disabilities may be appropriately considered for mainstreaming in academic areas, one of which could be geography. Mainstreaming occurs when a student enrolled in a special education classroom goes to a general education classroom to receive instruction in various subjects for no more than 49% of that student's day. Inclusion occurs when a student with a disability is placed, and enrolled, in a general education classroom. The student will spend a minimum of 50% of their day with that general education classroom, however, the student may receive other services such as speech therapy outside of the classroom. Students with learning disabilities who are mainstreamed or included for geography may need modifications in areas such as reading, writing, comprehension of material, and/or organization.

Major Issues

Issues have arisen due to the emphasis on reform in geographical literacy as discussed in the history section. Some of those issues were found to be prevalent in literature related to geography. The following issues will be discussed in the order listed: reviews and comments regarding the geography frameworks; discussion of geography organized by subject matter, skills and perspectives; and debates regarding the expanding environments concept, inclusion of geography as a separate curriculum subject, and memorization versus concept development. All of these issues relate to the teaching of geography in general and what is presented will apply to both general education students and students with learning disabilities.

The Geography Frameworks

The various recent documents and frameworks regarding geographic literacy have provided educators with much guidance regarding reform towards the "new geography." The major premise in these documents is the elimination of the four traditions of geography which have been replaced with the five fundamental themes of geography and, most recently, the eighteen national standards for geography. The CA framework for social studies explains how to incorporate geographic literacy into each grade level.

Controversy has arisen regarding the themes and standards of geography. The themes, which have been around for over a decade, provide the instructional approaches to be taken. They provide the particular focus for each lesson. The standards describe the subject matter, skills and perspectives of geography which should be taught. The themes can be found throughout the standards and can be applied to geography lessons at any grade level. The controversy has arisen in the use of the five themes to define geography. On one side, the themes are viewed as a series of ideas necessary for the study of geography, but are not themselves geography when they stand alone. On the other, the themes are viewed as ideas related to geographic inquiry and therefore a clear explanation of the term geography (Harper, 1990). Due to the

relative newness of the standards, little in the way of controversy has been published. When using the themes as a means of teaching the standards, it is likely that the controversy regarding the significance of the fundamental themes will be solved.

Organization of Geography

The themes and standards provide for instruction towards geographic literacy which includes knowledge of geographic subject matter, gain of geographic skills, and understanding of geographic perspective. Geographic subject matter looks at the earth in four different ways: as a physical object, as a physical environment, as a human place, and as a whole in order to understand connections among different places. Geographic skills includes five basic skills which help us understand physical and human patterns: asking geographic questions, acquiring geographic information, organizing geographic information, analyzing geographic information, and answering geographic questions. The five skills include, but are not limited to the abilities to make graphs, read maps, make field observations, and construct models. The geographic perspectives are spatial and ecological. The spatial perspective focuses on where patterns occur, whereas the ecological perspective focuses on how living and nonliving elements interact (Binko & Neubert, 1996).

Current Debates

Geographic literacy has been a subject of debate within the last decade, mainly related to the current reform efforts. The debates which will be discussed in the remainder of this section will include: a challenge to the expanding environments philosophy of teaching geography, the inclusion of geography as part of the social studies curriculum versus as a separate subject, and the role of rote memorization versus critical thinking in the teaching of geography.

The expanding environments philosophy, which had been the method of teaching geography for fifty years prior, was debated in the 1980's. Of concern was the adequacy of this curriculum model. The expanding environments model consisted of a set of widening concentric circles with the child in the center. Each circle widened the community being studied with each circle representing

one year's study in the curriculum. The model was based on the belief that children's thinking progresses from concrete to abstract and so should their geographic understanding progress from near to far. The model was challenged with review of the information contained in textbooks for kindergarten through third grade. It was found that this information contained understandings the students already possessed; was boring and redundant. The interesting and relevant information was not included in the textbooks until the later grades (Alkin, 1992).

Abandoning the expanding environment model was suggested in the 1980's due to claims that it was not supported by developmental psychology or children's learning theories. The CA *History - Social Science Framework* was the first and most significant document to suggest a departure from the expanding environment model. It proposes beginning each year with the study of the child's immediate present, but then extending these studies out in space geographically for each year of study. The intent is to broaden geographic horizons and link students with other people in a global manner (Alkin, 1992).

Another debate resulting from the reform movement is that of the inclusion of geography in the social sciences versus including geography as a separate curricular subject in the elementary schools. When geography entered the curriculum in 1916 it was as a separate subject. Later, the subjects of history and geography were blended into the social sciences. As a result of recent studies, this blending has been blamed as the primary reason for geographic illiteracy in our schools. The debate continues on how to solve this problem. One option is to return geography to the role of a separate subject in order to provide the needed time for intensive geographic study. This would result in lessons rich in geographic reasoning as opposed to superficial mentions of geography concepts when the subject is integrated into the other social studies. The other option is to continue to integrate geography into the social studies, but with added emphasis on geographic reasoning as opposed to rote memorization of place names. The argument here is that geographic concepts affect and shed light on all events discussed in the social studies (Binko & Neubert, 1996).

Taking this debate a step further is the suggestion that geography be included in discussions of all elementary subjects. It has been argued that

geographic concepts and principles are linked to all physical and human events and it is, therefore, essential to investigate these principles in every subject. (Binko & Neubert, 1996). As will be discussed further in the Synthesis and Analysis section, the inclusion of geographic concepts and understanding in children's literature has proven to be especially helpful. In addition, it allows for more flexible scheduling of the teaching of geography in the already over-crowded curriculum in elementary schools.

The last debate which will be discussed in this paper is related to the basic premise behind the reform movement of geography. This debate focuses on an out with the old, in with the new philosophy. The old refers to rote memorization of basic facts which included place names and land forms. The new refers to critical thinking and analysis of geographic data and information. The old style focused on where things were located and the learning of how to memorize material. The new style focuses on why things are located where they are and the learning of how to analyze information.

Simple memorization of basic facts leads to fragmented understandings. For this understanding to become useful, relationships need to be made between the various facts. At the heart of the debate is where the balance between facts and concepts will be found. This debate is similar to many occurring in other subject areas. It follows the same controversies of arithmetic versus problem solving, phonics versus whole language, and the study of historical dates versus historical ideas. Many authors have argued that memorization will remain necessary in every subject area, but should only play a small part in each area. This argument holds true in the development of geographic literacy. The knowledge of place names and locations will remain important and necessary, however, of themselves the place names and locations will not lead to geographic literacy. Instead, the basic facts should lay a foundation upon which concepts such as the significance of locations and relationships among elements in the location can be based.

This section has attempted to discuss the major issues found upon careful review of a selection of recent literature pertaining to the teaching of geography. It is a look at the author's views and understandings at this point in time and is not intended to be a complete discussion of any of the issues.

Synthesis and Analysis

This section will discuss the content of research articles and professional literature related to the development of geographic literacy. When specific mention is made regarding students with learning disabilities in the literature a discussion will follow.

Research studies regarding strategies and methods for teaching geography was limited (Buggy & Kracht, 1986). Little information is available for those seeking specific guidance (Alkin, 1992). The majority of research completed in the field of geography occurred between the years of 1969 and 1973. Since then geography teaching has been a minor topic within social studies educational research. The main source of recent research studies has been documented in dissertations (Stoltman, 1991).

More information was found concerning opinions, discussions, informal research studies, ideas, strategies and methods in the abundant sources of professional literature related to geography. Even in the professional literature, however, very little material was available regarding the teaching of geography to students with learning disabilities.

The research found tended to be grouped according to specific topics. This section will organize those topics as follows and in the following order: geography subject content and teaching methods; map and globe skills; specific strategies and suggestions for teaching geography; classroom and lesson organization; and training of preservice social studies teachers.

Geography Subject Content and Teaching Methods

Throughout the research, concern was expressed that map skills tend to be the focus of geography instruction. Criticism was abundant regarding the emphasis on memorization and the underemphasis on thinking skills. Researchers generally agreed that emphasis should be placed on teaching material which will lead to meaningful understandings of geographic relationships through a global view.

The Phi Delta Kappa publication suggested that, in order to improve the

subject content for geography and to focus on critical thinking skills in meaningful situations, geography should be integrated throughout the curriculum. By incorporating geographic principals into other subject areas, geography would gain added analysis skills and add meaning and reasoning to the other subjects. By applying geographic principles to other information in order to explain or understand some phenomenon, geographic literacy will be developed through the critical thinking required by such tasks. As a result, subject content in geography should improve (Binko & Neubert, 1996).

One research study investigated fourth grade teachers' views of geography and investigated how well their views matched the current framework and what was actually taught in those teachers' classrooms. The researchers concluded that many teachers still think of geography as a collection of facts to be learned despite the information resulting from reform in this area. Even more surprising was the fact that even the teachers who held more updated views of geography were unable to put those views into practice in their classrooms. The study found those teachers still presenting lessons focusing on coverage of basic skills rather than an understanding of subject matter (Thornton & Wegner, 1990). The results were that geographic understanding is much more intellectually complex than has been assumed by the general public.

Two reports were found regarding the content of social studies' textbooks in terms of geographic vocabulary and concepts (Smith & Larkins, 1988 and Haas, 1988). Both studies found the textbooks to be lacking in terms of including recommendations from the frameworks. The first study found that well-known social studies' series published in the 1980's were lacking in one or more of four criteria determined by the authors to test strength of place name vocabulary. The Silver Burdett & Ginn (1988) was found to have done the best job in these areas (Smith & Larkins, 1988). The second study revealed that all social studies' series were lacking in a set of five criteria designed to determine application of geographic concepts (Haas, 1988).

Map and Globe Skills

Research in the area of map and globe skills was very prevalent in the 1960's and 1970's. In the last ten years, however, research in this area has

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dropped dramatically as the shift in emphasis has changed through the reform movement in geography. The literature clearly states that map skills are still important, however, they are no longer the sole emphasis in geography.

Some of the literature discussed the importance that students' cognitive abilities be in line with the cognitive skills needed for specific map activities. In the primary grades importance is placed on developing concrete experiences related to maps prior to experiencing symbolic maps and globes. Piaget's theory of cognitive development is often discussed in terms of map skills. The research in this area has shown that students need to be cognitively ready for the specific activities their teachers propose. This bit of research is directly related to students with learning disabilities, in that, they may not be cognitively ready to learn age appropriate map skills. Consequently, the teacher of students with learning disabilities will be faced with the challenge of creating motivational map activities which are at the students appropriate cognitive level.

Another collection of information directly related to students with learning disabilities relates to directional orientation of maps. It has been suggested that maps be removed from the wall and placed on the floor with a true north orientation. This will reduce misconceptions that can occur when, for example, north is shown as pointing upwards (David, 1990). This relates to students with learning disabilities due to the fact that one of the most difficult tasks for them is the generalization of basic information. If north is not taught in its true orientation, it may never be generalized into the real world reading of maps.

All of the literature agrees that the development of map skills is important. If for no other reason, its importance lies in the necessity to be able to read maps in order to function in our society. It has been suggested that maps be used throughout the year and taken beyond rote memory. Maps have been designed to make us think and should be used in that manner.

Specific Strategies and Suggestions for Teaching Geography

The majority of research and literature found falls under the category of specific strategies for teaching geography. Complete discussions will occur in this section due to the relevance of these articles towards the questions proposed in the statement of problem for this paper. Eight articles were found

dealing with this category. Unfortunately only three of those eight described the results of testing those strategies in the classroom. The other five made suggestions for programs or provided interesting strategies, but the suggestions were not backed up with results from implementing those suggestions in the classroom.

Out of the eight articles found, three of them described strategies which directly used the five fundamental themes of geography. The other five made suggestions for various classroom activities which would provide motivation for teaching various geographic facts and concepts. Three of the five addressed the teaching of geographic facts and two of the five addressed the teaching of geographic concepts.

Two of the articles made suggestions for using children's literature in developing the five fundamental themes of geography. The suggestions given were to use well written literature with clear visual settings. The purpose of this strategy was to find more time in the elementary curriculum for the teaching of geography and to place geographic content in more relevant and real-to-life discussions. Both articles suggested mapping the story visually and then completing a discussion which looked at the issues and characteristics of the story which fell under each of the five fundamental themes of geography. Both of these articles were found in professional literature, and neither referred to any attempted implementation or results of its use in the classroom (Odden, 1992 and Pritchard, 1989).

The third article making use of the themes of geography to guide the lesson's content suggested using the students' own school site and surrounding environment as the unit of study. It proposed five different activities each related to a different geographic theme in which the students would participate in detailed, exploratory type discovery learning. No mention was made of previous implementation of this strategy in the classroom (Murphy, 1991).

The usage of picture postcards was suggested in an extensive article which proposed various classroom activities and rationale for the usage of the picture postcards, but did not mention results from classroom implementation. The rationale behind the strategy was the use of high interest instructional material which is easily available (postcards). The purpose of the activities were

to promote critical thinking as students discussed and discovered various aspects of the pictures on the postcards. The focus was on geographic content and not memorization of facts in this strategy. It was in this article that an indirect application to students with learning disabilities was mentioned. Since picture postcards do not focus on vocabulary or text to be read, these activities can be easily accessed by the poor readers. Poor readers can discover and discuss the content with their peers via the pictures rather than a text (Allen & Molina, 1992).

Classroom research was behind another strategy of teaching geographic content. The suggestion made was for the teaching of the concepts related to various geographic land forms. The strategy used was that of presenting the content in example versus nonexample format. The results showed that this strategy was effective for the learning of the concepts presented (Lockledge, 1991).

Another tested strategy was that of presenting the study of geography through a magic carpet journey. The strategy provided high motivation for primary level children. The journey integrated geography into all curricular areas and provided activities using poetry, music, games, science, math, cooking and writing. The main content included the names, shapes and locations of the continents. Students chose destinations they wished to travel to and learn about. After the implementation of this strategy the students geographic horizons had been expanded (Kaap, 1991).

Another article discussed an activity for upper elementary students in removing the rote memorization from map learning. The focus was on the students' involvement in enjoyable and effective learning of places which would result in a base for further geographic inquiry (Boehm & Petersen, 1987).

The eighth strategy involved the impact of a computer game on the learning of geography facts. The study found that among fifth and sixth graders, although motivation was high and interest was maintained, the ability to retain basic facts did not improve (Wiebe & Martin, 1994).

Classroom Lesson Organization

This category of the research and professional literature provided insight into the various methods which could be used to organize the teaching of lessons

in geography. Many of these articles showed specific applications for students considered at-risk, which includes the population of students with learning disabilities.

Information was discussed regarding cooperative learning, peer tutoring, advanced organizers, and mnemonics in the teaching of geography. Discussions were also found regarding the social studies' instruction in special education versus mainstreamed settings. Three of the six articles were based on classroom research studies.

Cooperative learning was discussed as a method of organizing geography lessons. One of the articles discussed the benefits of cooperative learning, especially in terms of providing involvement from all students including students with learning disabilities in a mainstreamed setting. High interest activities were suggested for building students' interest and competency in geographic literacy (Lyman & Foyle, 1991). The second article, which published results of a research study of students with learning disabilities in special day classes versus mainstreamed social studies classrooms, found the use of cooperative groupings in the teaching of geography to raise self-esteem and on-task behavior as well as allow the students with learning disabilities to function more effectively (Curtis, 1991). An added benefit was the social skill training found in effective cooperative grouping strategies which are necessary for effective citizenship.

The research article discussed above also looked at the use of peer tutoring in mainstreamed geography lessons and found that organization method to be effective for students with learning disabilities (Curtis, 1991). The main study of this research article reviewed the effects of instruction in geography for students with learning disabilities in special day programs versus mainstreamed settings. The results indicated that the students instructed, with various modifications, in the mainstreamed settings performed far better than those in special day programs in the area of geography. Conclusions were drawn that part of this finding is due to the fact that social studies is not a mandated subject in special day programs.

The use of advanced organizers was discussed in an article focusing solely on students with learning disabilities. The article was specific to the teaching of college students with learning disabilities, but contained information and findings

which could also apply to upper elementary students. The discussion suggested the planning of lectures around an advanced organizer to aid the students with learning disabilities in the organization of information. The strategy was based on research which states that the construction of schemata for organizing and storing information will lead to greater comprehension of material. Students with learning disabilities are often unable to construct these schemata on their own and consequently are unable to pull information together from textual or lecture material. The use of the advanced organizer by college professors was suggested as a solution to the problem (Brownlee, 1989).

Interesting information was found regarding the use of mnemonics to learn geography facts. Two of the articles used research studies to look at the effects of mnemonics versus lectures as effective teaching techniques for gifted minority elementary students. The results in both studies showed the use of mnemonics to improve the students' ability to recall and retain geography facts (Rowlison, 1994 and Rowlison & Merta, 1993). Other articles discussed the use of mnemonics with the general population as a way to make the facts more interesting. This was expected to be more effective in assisting students' memory of the necessary factual base for geographic learning (History-Social Sciences Curriculum Framework Criteria Committee, 1988). Another aspect related to students with learning disabilities is the fact that they encounter difficulty with learning and retaining facts. It was discussed that the use of mnemonics would provide motivation for learning the facts in an effective manner. It can clearly be seen that the research in general encourages the use of mnemonics with all students due to their studied effectiveness.

Training of Preservice Social Studies Teachers

The final research and literature found by the author to be relevant and of interest to this review included a look at skills possessed by preservice social studies teachers. One article was reviewed due to its research base approach. Other literature was found to agree with the article discussed here, but will not be included in this review of the literature.

A study was conducted in which preservice teachers were asked to draw a map of the seven continents which was then assessed in terms of relative

location, correct labels and size relationships. The basis of this study was the fact that mental maps represent how we view the world in a spatial manner and part of geographic literacy is one's knowledge of the world map as represented in a sketch map. The task given to the preservice teachers looked at an aspect of their geographic literacy by tapping into their mental map. The study found that secondary teachers constructed more accurate maps than elementary teachers and that male teachers constructed more accurate maps than female teachers. The female elementary teachers' average level of mental maps was comparable to that of seventh grade students. The study concluded that the mental maps of future teachers needs to improve, especially ofthose interested in teaching at the elementary level (Chiodo, 1993).

Conclusion

Much information was reviewed and discussed in this review of the literature pertaining to the development of geographic literacy. The author's intent behind this was in developing a broad and comprehensive update in an area many elementary teachers are lacking skills and knowledge in (Chiodo, 1993 and Thornton & Wenger, 1990). The author began this review with little more than a map skill orientation to the teaching of geography. The vast information included in this paper was the author's strive to "soak up" as much valuable information as possible in an area needing great emphasis.

This review began with an intent to search for and gain answers to four questions related to geographic literacy. All four questions were answered; some in great depth and others in less detail. Some were found to be less relevant than expected, whereas others were found to be "hot" issues in the reform movement of geography.

The first question addressed effective and noneffective methods for teaching geographic literacy as found in research articles. As discussed previously, scant research has been published in the area of geography (Alkin, 1992, and Buggey & Kracht, 1986, and Stoltman, 1991). Beneficial information pertaining to the research concerned ways in which elementary teachers' views of the teaching of geography did not match their practices; the low level of geography ability found in preservice elementary teachers; the ineffective use of computer software; the benefits of cooperative learning in the social studies; the effectiveness of using mnemonics in the teaching of geography facts; and the benefits of mainstreamed geography instruction for students with learning disabilities (Chiodo, 1993, and Curtis, 1991, and Lockledge, 1991, and Lyman & Foyle, 1991, and Rowlison, 1994, and Rowlison & Merta, 1993, and Thornton & Wenger, 1990, and Wiebe & Martin, 1994).

The second question led towards discussions regarding methods suggested in professional literature. The material was much more abundant in this area and provided most of the information documented in this review. The author found many methods mentioned, but more importantly, discovered a wealth of discussions pertaining to the major issues occurring in the current

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reform in geography. Some of the methods found to be valuable included the use of literature to teach the fundamental themes of geography; the use of advanced organizers to aid students with lacking organizational skills; increased emphasis on content and critical thinking skills versus a vast knowledge of basic, unrelated facts; and the relation of Piaget's theories of cognitive development to the organization of the teaching of map skills (Alkin, 1992, and Brownlee, 1989, and Lockledge, 1991, and Odden, 1992, and Pritchard, 1989).

The third question attempted to address what the teaching of geography entails in the 1990's in the midst of the reform movement. Many current debates were discussed in the Major Issues sections. From the literature reviewed, this presentation has attempted to promote: a removal from the expanding environments model of teaching geography; the importance and relevance of using the five fundamental themes to provide instruction in the eighteen national standards for geography; the importance of the inclusion of geography throughout the curriculum in meaningful, critical thinking oriented manners; and an emphasis on geographical literacy developed through the understanding of geography concepts drawing upon a firm foundation of geographic facts.

The final question addressed how the teachers of students with learning disabilities could effectively develop geographic literacy in their students. Very little information was found specific to this population, however, it is the author's opinion based on experience with the population, that all information provided in this review is pertainable to students with learning disabilities. Research has shown that learning disabled students have great difficulty in tasks requiring generalization of basic skills (Mastropieri & Scrugs, 1987). It has been the author's experience that leading students toward generalization often is obtained simply by what can be referred to as "good teaching." All of the literature reviewed in this paper provided emphasis on what "good teaching" involves in the field of geography due to the current need to discover how to raise geographic literacy in ALL students. Due to this focus of current literature (that of how to improve poor current abilities) the author is proposing that this entire paper is extremely relevant to students with learning disabilities. Since much of geographic literacy is dependent upon certain conceptual developments, the teacher of students with learning disabilities' role will simply be to correctly assess the students' conceptual level and begin instruction at that point.

Recommendations

As a result of the research, many recommendations can be made for developing geographic literacy in students with learning disabilities as well as the general education population. All recommendations are timely in the sense that this review was conducted during an important time of the reform movement in geography. The curriculum, content, and frameworks have been published and in place regarding what is meant by geographic literacy. The focus at this point needs to be on implementing the ideas of the reform movement into the elementary classrooms.

To begin with, all elementary teachers should start the implementation of the reform with a look inward at their views and abilities in the area of geography. Where needed, educators should strive to improve their skills and geographic literacy in order to more effectively develop it in their students. On the same trend, districts need to take responsibility in consistently and effectively training their teachers in the development of geographic literacy. Teachers will need direction in terms of their district's views and implementation of the state's frameworks. Education also needs to be directed towards the general public. The general public has been informed that our students are geographically illiterate. They need to be informed of what geographic literacy does entail so they can recognize success when it occurs.

In terms of research and future authors, much more research needs to be conducted in all areas of the development of geographic literacy. Research on specific programs, specific content, and specific strategies--other than the development of map skills--needs to be conducted. In addition, more published research of the geography instruction in special education programs may help begin improvements in this lacking area. Textbooks for students need to begin reflecting more effectively the trends of the geography reform. The recent textbooks for preservice elementary teachers reviewed in this research were found to contain complete discussions of the current ideals behind geographic literacy, however, a recommendation will be made in improving strategies and methods for implementing those ideals.

The next step would be to begin implementation of the geography reform philosophies into the elementary classrooms. Due to the time constraints of the elementary curriculum, geography can be integrated throughout the curriculum in many meaningful ways. The teaching of the basic facts of geography should not be eliminated, but can be taught in more motivational manners and in more relevant contexts. The development of geographic literacy depends upon going beyond the memorization of those facts into critical thinking of various geographic concepts which can be easily addressed through the usage of the five fundamental themes of geography. Map skills will remain one way of teaching geographic content, however, it should be emphasized that reading a map is more than memorizing or locating place names. Problem solving and analysis skills should be a part of map instruction.

Teachers of students with learning disabilities need to find ways to realize the importance of including geography skills in their instruction. By focusing on the goal of geography to promote effective citizenship in students, the realization of geography's importance will be easier to understand.

Finally, the push for the geography reform might best be accomplished by realizing that "as the world grows smaller our country's future depends on the ability to see connections with our global neighbors" (Binko & Neubert, 1996). By stressing geographic understanding and tolerance, our students will develop into citizens capable of functioning and living peacefully in our ever-changing global community.

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